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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/916,410	07/27/2001	Jari-Matti Karjanmaa	33047/236961	8863

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EXAMINER

ALVO, MARC S

ART UNIT PAPER NUMBER

1731

DATE MAILED: 09/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/916,410	KARJANMAA	
	Examiner	Art Unit	
	Steve Alvo	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 14-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 14-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 10-16 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over RUDT et al with or without SYRÉ or VICKERY (Tappi article) and further in view of WILLIAMS et al (5,563,809).

RUDT et al teaches measuring the properties of a paper web with an infrared camera (column 5, line 5 and lines 14-18) at various locations (see column 5, lines 31-35) in a paper making process; including the forming section (paper machine), calender section and coating section; to correct deviations (moisture content, e.g. wetness) in the process treatments and the manufacturing process. It would have been obvious that the paper web would have exited the forming section as it travels to the other sections of the manufacturing process. RUDT et al further teaches controlling the manufacturing and treatment processes to correct the deviations. The claimed "thermal camera" does not appear to differ from the infrared camera of REDT et al. If necessary, it would have been especially obvious to use an infrared camera as the detecting means of RUDT et al as the use of an infrared camera to measure paper web deviations is taught by SYRÉ. Or if the infrared camera of RUDT et al is not a thermal camera, then RUDT et al teaches that infrared cameras can be used when measuring the moisture (wetness) of the web (column 5, lines 14-18). VICKERY teaches that infrared thermal cameras are particularly useful and easier to use than other moisture

sensors and VICKERY teaches that such thermal cameras can be used in measuring and controlling the moisture profile of a paper web during the wet end and/or dry end of the manufacturing process. It would have been obvious to use the easier to use thermal camera of VICKERY for the infrared camera of RUDT et al. RUDT et al teaches continuous monitoring the process for pre-determined lengths of time. Obviously the images could be taken over periodic lengths of time, see RUDT et al, column 5, line 66-column 6, line 4. Claims 21 and 22 are rejected as RUDT et al teaches saving the data and displaying the data at a future time. Claims 2, 16 and 20 are rejected as RUDT et al teaches measuring deformities in the coating section and teaches that surface texture, color, gloss and moisture are among the variables measured (column 5, lines 25-16). It would have been obvious to the artisan that any deviation in the coating would change surface texture, color, gloss and/or moisture of the paper web and thus show up as a measured deviation in the process of RUDT et al. The camera of RUDT et al continuously monitors the process (see abstract and column 7, lines 23-25), when a deviation is detected a signal is sent to a control means (20). RUDT et al states that the control means 20 "can additionally be used to supervise the status of each device in the system" (column 8, lines 30-35) and that "necessary adjustments and/or repairs can be started quickly and the machine restored to normal operation" (column 8, lines 36-42). This does not differ from the papermaker of the instant process analyzing the images and controlling the process, see Applicant's paper of 6/12/2002, page 4, lines 1-2. . WILLIAMS et al teaches feed forward and feedback control of a paper machine, wherein a camera is used (152) to measure and control a paper machine in real time (column 12, lines 14-23, column 13, lines 48-50, column 17, line 35 to column 18, line 33). It would have been obvious that

the stored values of RUDT et al could have been used by the machine operator to detect defects and control the process in real time as taught by WILLIAMS et al. It is noted that the claims do not call for adjusting the manufacturing process in real time they only call for determining the defects in real time.

Claims 4-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over RUDT et al with or without SYRÉ or VICKERY (Tappi article) and further in view of WILLIAMS et al as applied to claim I above, and further in view of NIEMI.

NIEMI teaches measuring and controlling the moisture profile of a paper web and teaches that the control can be feed forward (measured prior to the treatment to be controlled) or feedback (measured after the treatment to be controlled). It would have been obvious to use the feed forward or feedback control system of NIEMI to control the pulp properties, e.g. moisture, of RUDT et al.

Claims 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over RUDT et al with or without SYRÉ and further in view of WILLIAMS et al.

See SYRÉ, column 2, lines 47-55, for using infrared light spectrum of 0.7 to 18.

Claims 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over RUDT et al with or without VICKERY (Tappi article) and WILLIAMS as applied to claim 1 above, and further in view of SYRÉ.

SYRÉ teaches using an infrared camera using infrared light spectrum wavelength of 0.7 to 18 micrometers (column 2, lines 47-55) to detect the properties of a paper web. It would have been obvious to use the infrared wavelengths of SYRÉ in the infrared camera of VICKERY when measuring the properties, e.g. moisture content, of the web.

Claims 2, 16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over RUDT et al with or without SYRÉ or VICKERY and further in view of WILLIAMS as applied to claim 1 above, and further in view of DOBBIE or BILHORN et al.

If necessary DOBBIE or BILHORN teach monitoring coated paper webs to defect non-uniformities in the coating. It would have been obvious to the routineer that the sensor in the coating section of RUDT et al could be used to detect non-uniformities in the coating layer of the web of RUDT et al.

The argument that there is no evidence that the operator, of WILLIAMS et al , adjusts the paper machine based on the images is not convincing as WILLIAMS et al, the sentecne bridging columns 17 and 18 teaches the “web sensor can be used to measure and display the web 102 at its wet end to permit an operator of the system and evaluate one or more characteristics of the web 102. For example, the uniformity of the web can be monitored from the display of the operator’s console 126. “This clearly teaches that the human operator can observe the displayed images in real time. WILLIAMS et al further teaches, sentence bridging columns 7 and 8, The operator’s console 126 includes keyboard 128 for **entry of information into and control of the processor system 127 to thereby control the machine 100**” (emphasis added). Clearly this teaches that the operator inputs data, using a keyboard, in real time to adjust defects the manufacturing process of the paper web.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

When filing an **"Official"** FAX in Group 1730, please indicate in the Header (upper right) **"Official"** for papers that are to be entered into the file. The **"Official"** FAX phone numbers for this TC 1700 are:

Non-Final Fax: (703) 872-9310 **After-Final FAX:** (703) 872-9311.

When filing an **"Unofficial"** FAX in Group 1730, please indicate in the Header (upper right) **"Unofficial"** for Draft Documents and other Communications with the PTO that are not for entry into the file of the application. This will expedite processing of your papers. The **"Unofficial"** FAX phone number for this Art Unit (1731) is **(703) 305-7115**.

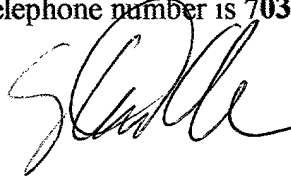
Any inquiry concerning this communication or earlier communications from the **primary examiner** should be directed to **Steve Alvo** whose telephone number is **(703) 308-2048**. The Examiner can normally be reached on Monday - Friday from **6:00 AM - 2:30 PM (EST)**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Steve Griffin, can be reached on 703-308-1164.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Group receptionist** whose telephone number is **703-308-0661**.

A handwritten signature in black ink, appearing to read 'Steve Alvo', is positioned above the printed name.

STEVE ALVO
PRIMARY EXAMINER
ART UNIT 1731

MSA
9/5/2003